

### **REMARKS/ARGUMENTS**

Reconsideration of the application is respectfully requested for the following reasons:

#### **Rejection of Claims 1-3, 5-7 Under 35 U.S.C. §102(e)**

Claims 1-3, 5-7 are rejected under 35 U.S.C. §102(e) as being anticipated by Maeda et al. (US 2002/0176032) . In the rejected claims, Claim 1 is independent.

Applicant respectfully traverses this rejection.

This rejection is respectfully traversed on the basis that Examiner actually provides an improper modification on the teaching of Maeda et al. since Maeda actually discloses a triple-layered film including an under-layer of the high melting point metal, a middle-layer of the Al-Nd alloy and over-layer of the high melting point metal which is formed of at least two metal/alloys with contrary metallurgical properties respectively and Maeda et al. fails to teach every element of the claimed invention. Maeda et al. is insufficient to render the claimed invention unpatentable.

Applicants respectfully disagree with Examiner on the basis that the teaching of Maeda et al. only discloses a thin-film transistor having a triple-layered film including an under-layer of the high melting point metal, a middle-layer of the Al-Nd alloy and over-layer of the high melting point metal which is formed of at least two metal/alloys with contrary metallurgical properties respectively. In the process of FIGS. 3(c), 4(c) and 5(c) of Maeda, the triple-layered film is formed over the semiconductor

layer 22 and the dielectric layer 33. The triple-layered film includes an under-layer 231 of high melting point metal, a middle-layer 232 of Al--Nd alloy and an over-layer 233 of high melting point metal. Sputtering is used to form the under-layer 231 of high melting point metal over surfaces of the semiconductor layer 22 and the dielectric layer 33. Sputtering is used to form the middle-layer 232 of Al--Nd alloy on the surface of the under-layer 231. Subsequently, sputtering is used to form the over-layer 233 of high melting point metal on the middle-layer 232. The under-layer 231 of high melting point metal has about 50 nm thick. The middle-layer 232 of Al--Nd has about 200 nm thick. The over-layer 233 of high melting point metal has about 100 nm thick. In the case where the under and over layers 231 and 233 of the triple-layered structure are formed of a high melting point metal selected from a group consisting of chromium (Cr), titanium (Ti), tantalum (Ta), niobium (Nb), chromium alloy, titanium alloy, tantalum alloy, and niobium alloy, the concentration of neodymium (Nd) of the middle-layer 232 ranges from 0.01 wt % to 1.00 wt %. In the case where the under and over layers 231 and 233 of the triple-layered structure are formed of a high melting point metal selected from a group consisting of molybdenum (Mo), tungsten (W), titanium nitride (TiN), molybdenum alloy, tungsten alloy, and titanium nitride alloy, the concentration of neodymium (Nd) of the middle-layer 232 ranges from 0.5 wt % to 1.0 wt %.

For one of ordinary skill in the art, the triple-layered structure formed of an under-layer of the high melting point metal, a middle-layer of the Al-Nd alloy and over-layer of the high melting point metal provided by Maeda would not be considered as the triple-layered structure of the claimed invention since the under-layer and the over-layer is formed of high melting point metals such as Cr, Mo, W and Ti, and the middle-layer is formed of the Al-Nd alloy which has a relative low melting point about

660°C even though the melting point of Nd is about 1010°C since the concentration of neodymium (Nd) of the middle-layer ranges from 0.5 wt % to 1.0 wt %. The melting point of the high melting point metals such as Cr, Mo, W and Ti provided by Maeda all are over and/or much higher than 1600°C. Moreover, the compositions of the under-layer and the over-layer formed of the high melting point metals are also different to the Al-Nd alloy. The subject matter of Maeda actually provides one of ordinary skill in the art with a thin film transistor having a triple-layered structure with at least two layers having contrary metallurgical properties respectively which is contrary to the claimed invention. Therefore, Examiner actually provides an improper modification on the teaching of Maeda et al. and Maeda et al. fails to teach every element of the claimed invention. Maeda et al. is insufficient to render the claimed invention unpatentable.

Rejection of Claims 4, 13 and 14 Under 35 U.S.C. §103(a)

Claims 4, 13 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over Maeda in view of Hayama et al. (US 5,416,341) .

Applicant respectfully disagree with Examiner since the teaching of Hayama also fails to disclose the element of the claimed invention which Maeda dose not teach, the combination of Maeda and Hayama is also insufficient to render the claimed invention unpatentable.

Examiner actually provides improper modifications on the teachings of Maeda and Hayama which do not meet the basic requirements of a prima facie case of obviousness. According to MPEP 2143 Basic Requirements of a Prima Facie Case of Obviousness, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

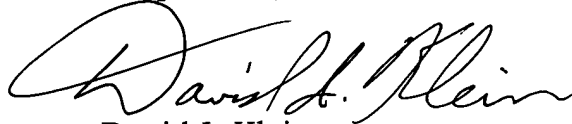
The teaching of Maeda only discloses a thin film transistor having a triple-layered structure with at least two layers having contrary metallurgical properties respectively which is contrary to the claimed invention. One person with ordinary skill in the art would hardly use the triple-layered structure with at least two layers having contrary metallurgical properties respectively to obtain the claimed invention since there is no reasonable suggestion or motivation in the knowledge generally available to one of ordinary skill in the art and Maeda and Hayama do not teach or suggest all the claim limitations. Examiner actually finds out teaching or suggestion to make the claimed combination and the reasonable expectation of success only in applicant's disclosure, not in the prior art.

### Conclusion

In light of the above remarks to the claims, Applicant contends that claimed invention is patentable thereover. Besides Claims 9-12, Claims 1-8 and 13-15 are also in condition for favorable consideration and allowance of Claims 1-8 and 13-15 are most respectfully requested.

**This Amendment was prepared by Applicant, and is being submitted  
without substantive change by the undersigned Attorney.**

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "David I. Klein".

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